

Sunset Bridge  
1.2 Miles East of end of Route Y  
Bolivar Vicinity  
Polk County  
Missouri

HAER No. MO-27

HAER  
MO  
84-BOLIV,  
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service  
Rocky Mountain Regional Office  
Department of the Interior  
P.O. Box 25287  
Denver, Colorado 80225

HISTORIC AMERICAN ENGINEERING RECORD

SUNSET BRIDGE

HAER  
MO,  
84-BOLIV,  
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I. INTRODUCTION

Location: The Sunset Bridge spans the Pomme de Terre River at a location about  $7\frac{1}{2}$  miles south-east of the center of Bolivar and is about one mile westerly of the village of Van. It is also about  $1\frac{1}{4}$  miles east of Supplementary Route "Y".

Quad: Cedar Vista  
UTM: "C" 15/415/6210 N472870E  
"D" 15/415/6230 N472920E

Date Constructed: The iron truss span was first built at the Pomme de Terre crossing near Burns in 1885 and was moved in 1931-1932 to the Sunset location.

Owner: Polk County Commission  
Polk County Court House  
Bolivar, Missouri

Use: The bridge carries vehicular traffic on a section of county road which connects with Route "Y" on the west, and with Route "YY" on the east.

Significance: This bridge holds the unofficial honor of being the first "iron" bridge to be built in Polk County. It is remarkable that although it is frail, by present standards, it has carried tremendous loads, far beyond its design capacity, for more than a century. Not many bridges have served for more than half a century in each of two locations. It was fabricated by the King Bridge and Manufacturing Company of Cleveland, Ohio.

Historian: Historical Society of Polk County  
John McReynolds  
Bolivar, Missouri  
March 1987

## II. HISTORY

### A. EARLY ROAD AND BRIDGE CONDITIONS IN POLK COUNTY

In the aftermath of the Civil War the public roads in Polk County, Missouri, were extremely crude. Maintenance and improvements were a local responsibility and largely ignored and endured. The county government was weak and poor with almost no money to spend on either roads or bridges.

As the rural areas began to become more populous and prosperous the demands for improved roads became more pronounced. County road funds slowly increased and "working out the Poll Tax" contributed to rudimentary improvements. Minutes of the County Court in the 1870's and later, show numerous petitions submitted asking for relocations and improvements in the county roads. Common complaints read "impassable in wet weather", "difficult steep grades" and "bad fords".

For many years bridging of streams was strictly a local responsibility and was limited to short log or crude roughsawed lumber spans. All streams of appreciable size were forded.

By the early 1880's the principal through road network in Polk County was established. The principal East-West road was called the Lebanon-Fort Scott road, passing through Bolivar about midway between the north and south lines of the county. The North-South axis was served by the Springfield-Clinton road, crossing the Lebanon-Fort Scott road at Bolivar. The third principal road headed from Bolivar toward Warsaw, once the river port for Polk County, and on to Jefferson City.

The principal hindrance to travel on the Lebanon-Fort Scott road in Polk County was the crossing of the Pomme de Terre River at the village of Burns, located about six miles east of Bolivar. At an unknown earlier date a crude wood bridge (some oral history called it a "covered bridge") had been constructed. (1) This bridge was clearly inadequate for the growing traffic.

In 1884 another improvement in the county added to the need for an improved river crossing at Burns. During this year the Springfield and Northern Railroad had completed a rail line into Bolivar from the south. (2) Thus Bolivar became the rail head for both incoming and outgoing commerce for not only Polk County but also much of Dallas County to the east, Hickory County to the

north and Cedar County to the west. It was obvious that a new bridge over Pomme de Terre River was a necessity.

B. CONSTRUCTION RECORD AT BURNS ("A" on attached map)

In mid 1884 we find evidence in the County Court minutes that the Court had become convinced that a new bridge at Burns was necessary. No doubt the newly established rail head at Bolivar had at least partially precipitated the action. On May 7, 1884, it is recorded that: "the Court viewed the location and estimated the cost of both a wood bridge and an iron bridge at the crossing of the Pomme de Terre River on the Bolivar-Buffalo road." (3) No information is found as to earlier deliberations concerning the matter.

Soon there came further action. On August 6th of the same year: "It was ordered by the Court that the bid for building an iron bridge over the Pomme de Terre River at Buffalo Crossing, made by the King Bridge and Manufacturing Company (of Cleveland, Ohio), for \$1,349.00 be accepted, said bridge to be of wood and iron known as a Truss bridge. The span is to be 100 feet with a ten foot clear roadway." Completion date was set for December 31, 1884. No information was

given as to a call for bids or any other preliminary considerations. (4) and (5)

It appears that work did not begin quickly for not until February 3, 1885 did further mention of the project appear in the record. On this date, Mr. P. M. Burns, County Surveyor and Ex-officio Bridge Commissioner, was directed to see that the bridge was built in accordance with plans and specifications. He was also directed to estimate the cost of approaches to the span. Plans and specifications for the bridge no longer exist. (5)

On February 6th of the same year the Court allowed payment of \$674.50 to the King Bridge Company, with the remaining 50% of the bid price to be paid when the bridge was accepted. (6) At the same time, a contract was entered into with Mr. Phillip Schleifer for the excavation for and construction of two masonry abutments to support the iron span. Apparently Mr. Schleifer did not delay his work for on May 5, 1885, he was allowed \$518.00 in payment for his contract work. (7)

As a matter of interest, Mr. Schleifer was an exceptionally competent stone mason. In the following years, he constructed quite a number of bridge piers and

abutments for bridge in Polk County. A considerable number of these masonry structures are still in use and are in excellent condition. Mr. Schleifer trained for his work in Pennsylvania as a young man.

His descendants report that he helped construct the well known stone arch bridge at Johnstown, Pennsylvania, which withstood the infamous flood on the Conemaugh River at that location.

The Court minutes rather generally indicate that a contract was let for the construction of earth approach fills at each end of the span. The length of each approach was to be 100 feet with a top width of 16 feet and a bottom width of 32 feet. It was to be surfaced with "two inches of rock and six inches of macadam". There is no record of contractor nor cost. (8)

We have been unable to find date of completion of the truss span nor record of remaining payment.

In the early 1920's the Fort Scott and Lebanon road, at least as far east as Buffalo, was designated as U.S. Highway No. 54 and this bridge continued in use as a highway bridge with maintenance transferred to the

Missouri State Highway Department. No appreciable improvements were made by the agency except simply maintaining the wood floor. By now, the bridge was subjected to increasingly heavy truck loads, far in excess of its design capacity. The span stood the test of time and use in an excellent manner.

C. REMOVAL TO SUNSET CROSSING (See "B" on attached map)

In the late 1920's the Missouri State Highway Department began steps to improve the Bolivar to Buffalo road. No appreciable improvements had been made since its inclusion in the state system. Surveys were made, plans prepared and a contract awarded to rebuild the road to current state standards. The work was done in 1929 and 1930. (9) As part of the project a modern seven span concrete arch and girder bridge was erected over the Pomme de Terre River immediately to the north of the old bridge.

By 1931 traffic was using the new bridge and the old iron bridge became surplus. By agreement between the State Highway Department and the County Court the old bridge was relinquished to Polk County for use elsewhere.



The Polk County Court now utilized the services of Mr. E. H. Neuhart, County Surveyor, as Superintendent of Roads. Mr. Neuhart was a graduate civil engineer and was completely competent to handle these duties.

Apparently as a result of negotiations, of which we have no adequate record, it was decided to move the iron bridge to the county road crossing the Pomme de Terre River west of Van and known as the Sunset Ford. This location is shown at "B" on the attached map. Possibly one major factor in choosing this location was the fact that the Sunset location was about five miles, by road, from the Burns location. Mr. Neuhart was to plan for and oversee the move and to reconstruct it in the new location.

Since no contract was let for moving the bridge, Mr. Neuhart directed locally hired labor in the work. The top cross members, the floor beams, stringers and floor were removed from the truss span. Then the two trusses, one at a time, were lowered from the abutments, probably using false-work and gin poles, and the old bridge was ready to be moved to the new location. (10)

Two local farmers, Clint May and Jim Watson, prepared horse drawn wagons to move the trusses. The front wheels of each wagon had a flexible bolster and was connected to the rear wheels, with a fixed bolster, by a long temporary coupling pole. The end of one truss was placed on the front bolster and the rear bolster supported the remainder of the truss at a point about 25 feet from the other end. The remaining members of the truss span were hauled by other horse drawn wagons. It would be interesting to learn how the drivers of the wagons maneuvered at abrupt corners and steep grades on the rather poor road, but the workers were resourceful and the work was done.

At this point we must point out that this account of the moving cannot be documented from records but has been knit together from bits of information gathered here and there from workmen who participated in the work. (10) The passage of more than half a century has dimmed the recollections of those involved. However, we believe this account fairly represents methods used. Mr. Neuhart could have provided a lucid description of the work but he is no longer living.

The County Court records for this period simply account for numerous items of payments for labor to individuals and for construction material identified only as "for Sunset Bridge work". These accounts are throughout 1931 and 1932. (11)

It is interesting to note that the records reveal that Mr. Phillip Schleifer, who built the masonry abutments at the Burns location, again appears but on a paid daily basis on the Sunset Bridge work. (12) Here two concrete piers were constructed rather than stone masonry as well as two abutments for a timber approach span was built at each end of the iron truss.

We have no account of how the iron trusses were lifted to the top of the piers, but somehow it was accomplished. The bridge was reassembled using the other original members and a new wooden floor was laid. From an inspection of connections it appears the truss span was reassembled exactly as it was before moving. Without ceremony the relocated bridge went back into service under the name of the Sunset Bridge.

Now, more than 100 years old it continues in service.

As far as can be determined, no appreciable repairs, other than periodic replacement of the wood floor, have ever been necessary. As far as can be determined, it has never been painted.

As a matter of interest, the concrete arch bridge built at Burns to replace this truss bridge is programmed for replacement although it is less than half the age of this iron span.

### III. THE BRIDGE

- A. Description: The center span of the Sunset Bridge is the single span Pratt high through truss moved from the Burns location. It is a four panel pin connected truss with diagonal rod tension members and vertical compression members of channel iron. Length is 100 feet, width 10.3 feet and vertical clearance is 15 feet. Inclined end posts and upper chords are laced channel iron and tension members are 3/4 inch and 1 inch wrought iron rods.

There is no bridge identification plate and the builder is shown only in records of contract awarded.

The two approach spans, one at each end, are approximately 30.5 feet long and 10 feet wide. The stringers are 6 inch by 15 inch treated timber and floor is 2 inch by 6 inch timber on edge, similiar to that on the truss span. The stringers are in poor condition.

Piers and abutments are concrete in good condition.

This bridge is posted for a three ton load limit which appears reasonable.

- B. The present bridge will be removed when the new bridge is completed. The County Court will advertise for disposal of the bridge with preference given to any person or organization who will move and re-erect the span for historical purposes.

#### REFERENCES

- (1) Esther Elwyn, interview
- (2) History of Hickory, Polk, Cedar, Dade and Barton Counties, Missouri, Goodspeed Publishing Company.
- (3) Polk County Court Record Book K, Page 619
- (4) Ibid, Book K, Page 623
- (5) Ibid, Book L, Page 6

- (6) Ibid, Book L, Page 68
- (7) Ibid, Book L, Page 68
- (8) Ibid, Book L, Page 82
- (9) Missouri State Highway Department plans on file in  
Polk County Court House.
- (10) Interviews with Clint May, Alva Reed and Tom  
Shoffner.
- (11) Polk County Court Record Books "X" and "Y"  
(Numerous non-informative items on labor  
allowances.)

General Note: Court records from 1883 through 1885 and  
from 1930 through 1932 were read in search of  
information. A review of file copies of the Bolivar  
Herald-Free Press, for the periods involved, did not  
yield any useful information.